

Appln. No. 10/003,482
Amdt. dated August 5, 2005
Reply to Office Action of June 6, 2005

Amendments to the Drawings

The attached sheet of drawings includes changes to Fig. 5. This sheet replaces the original sheet of Fig. 5. In step 116, text from paragraph [0086] of the specification has been added.

Attachment: Replacement Sheet
 Annotated Sheet Showing Changes

REMARKS

Claims 1-11, 13-30, and 32-40 remain in this application. Claims 12, 31, 41, and 42 have been canceled without prejudice. Claims 1, 17, and 37-40 have been amended. No new matter has been added. Reconsideration is respectfully requested.

The drawings were objected to under 37 CFR 1.83(a). Applicant has attached a replacement sheet for Fig. 5. In the replacement Fig. 5, applicant has amended the text of generate-list-of-rules step 116 to accord with paragraph [0086] of the specification. In the replacement sheet for Fig. 5, generate-list-of-rules step 116 states "generate rule list to have number of rules as function of control-flow structure, reduced by a factor 2-10 compared with number of basic blocks." Applicant respectfully requests that, in view of the amended Fig. 5, the objection to the drawings be withdrawn.

Claims 1-10, 13-28, 30, and 32-36 were rejected under U.S.C. §103(a) as being unpatentable over "Coverability Analysis Using Symbolic Model Checking" published in the March 1998 IBM Research Disclosure (IBM) in view of the "Background of the Invention" (BOTI) of the present application. Claims 11 and 29 were rejected under U.S.C. §103(a) as being

unpatentable over IBM in view of BOTI, and further in view of U.S. Patent 5,579,515 to Hintz et al.

Applicant has amended independent claim 1 to sharpen the differences of the claim over the cited art, by incorporating into claim 1 some of the limitations of dependent claim 41 (now canceled), and by further incorporating into claim 1 that the number of rules is less than the number of basic blocks by a factor in a range from two to ten. Applicant has also amended independent claim 17 to incorporate similar limitations. The amendments are supported by paragraph [0086] of the specification.

Claim 41 was rejected under U.S.C. §103(a) as being unpatentable over IBM in view of BOTI, and further in view of U.S. Patent 5,179,702 to Spix et al. (Spix) Applicant readily agrees with the Examiner that Spix teaches a control flow graph showing the flow of control between basic blocks. However, Spix does not relate to rules regarding behavior of software under test, as is required by independent claims 1 and 17. Furthermore, Spix neither teaches nor suggests generating a number of rules less than a number of basic blocks, nor that the number of rules is a function of his control flow structure, both of which limitations are required by claims 1 and 17. Similarly, neither IBM nor BOTI teach or

suggest generating a number of rules less than a number of basic blocks, and neither IBM nor BOTI teach or suggest that the number of rules is a function of a control flow structure.

Applicant, in his amendment dated 3 March, 2005, stated, in regard to claim 41: "Support for claims 41 and 42 is found in paragraph [0086] of the specification, which also gives numerical reduction factors for the number of rules."
(Page 24, first complete paragraph)

In order to further distinguish over the cited art, applicant has incorporated the numerical reduction factors, referred to in the amendment of 3 March, 2005, into claims 1 and 17. Careful inspection of the cited art reveals no hint nor suggestion of reduction factors in relation to numbers of rules regarding SUT behavior, compared to numbers of basic blocks of the SUT, so that the cited art, separately or in combination, does not teach nor suggest the numerical range of reduction factors recited in amended claims 1 and 17. Applicant therefore respectfully submits that claims 1 and 17 are patentable over the cited art.

Claims 2-11, 13-16, 18-30, and 32-36, depend from claim 1 or claim 17. In view of the patentability of claims 1

and 17, claims 2-11, 13-16, 18-30, and 32-36, are believed to be patentable as well.

Claims 37-40 were rejected under U.S.C. §103(a) as being unpatentable over IBM in view of BOTI, and further in view of U.S. Patent 6,484,134 to Hoskote. Claims 37 and 39 are independent claims respectively reciting an apparatus and a computer software product corresponding to claim 1. Claims 38 and 40 are independent claims respectively reciting an apparatus and a computer software product corresponding to claim 17. Applicant has amended claims 37-40 by incorporating similar limitations to those into claim 1 into the claims. In view of the arguments presented above with regard to claim 1 and claim 17, applicant believes that amended claims 37-40 are patentable as well.

Applicant has studied the additional prior art made of record by the Examiner. Applicant believes the amended claims in the present patent application to be patentable over the cited prior art as well, whether taken alone or in combination with other prior art.

Applicant believes that the above amendments and remarks are fully responsive to all of the objections and grounds of rejection raised by the Examiner. In view of these

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amendments and remarks, applicant respectfully submits that all of the claims currently pending in the present application are in order for allowance. Notice to this effect is respectfully requested.

The prior art documents made of record and not relied upon have been noted along with the implication that such documents are deemed by the PTO to be insufficiently pertinent to warrant their applications against any of applicant's claims.

Favorable reconsideration and allowance are earnestly solicited.

Respectfully submitted,

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FIG. 5

